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ROCHESTER INSTITUTE OF TECHNOLOGY

A Thesis Submitted to the Faculty of  
The College of Fine and Applied Arts  
in Candidacy for the Degree of

MASTER OF FINE ARTS

THE FUSION OF CONTRASTING ELEMENTS

By

EDWARD C. JACOB

JUNE 1984



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Date: 6/13/84

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## DEDICATION

This thesis is dedicated to Joy Kinigstein, my devoted companion and friend, whose encouragement and understanding have enabled me to complete my studies at R.I.T. It is also dedicated to my mother, Mildred Jacob Schlessberg, whose loving encouragement will be greatly missed.

## CHAPTER I

### BACKGROUND

I consider contrast, the opposition of disparate elements, to be of great importance. Our existence is continually punctuated by changing conditions which can have powerful effects on us. We have all experienced good and bad times with varying degrees of intensity. I believe this range of contrast stretches from very subtle differences to opposite polarities. In the realm of physical existence, analogies could be good health versus varying degrees of infirmity, and life versus death.

Visually, we are surrounded by contrast, and due to its ever present nature, we rarely focus on this fact. This thesis is concerned with the fusion of contrasting elements, a theme which is rooted in my personal experience. It is a concept which started to appear in my work just prior to coming to study at R.I.T.

At that time, I had recently changed from soft, curvilinear designs to straight, hard edged shapes. These rectilinear characteristics were being explored in a series of wall mirrors,

the last of which combined a circular mirror with straight frame members (see plate 1). This was the first unconscious step in a direction which I now find fully engaging.

The mirror series had been triggered by an outdoor constructivist piece I had seen at the Hirshhorn Museum in Washington, D.C., and represented a breakthrough for me. Previously my creativity in wood had almost been synonymous with curvilinear, sensuous shapes. These rectilinear ideas seemed to come from another part of myself and gave me a broadened sense of creativity.

Looking back on this period, I see that the new East Wing of the National Gallery, designed by I. M. Pei, was also influential. While visiting it, I was struck by the importance placed on space. I remember being aware of space as a concrete entity. The gallery contained several large scale sculptures created specifically for the spaces in which they were located, but none of the sculptures seemed more important than the void which surrounded it.

My mirror series also emphasizes the importance of the space between and around the various positive elements. In so doing, it forms a link between my past and present work.

In addition to positive and negative space, the pieces I've built for my thesis employ the contrasts of curved and

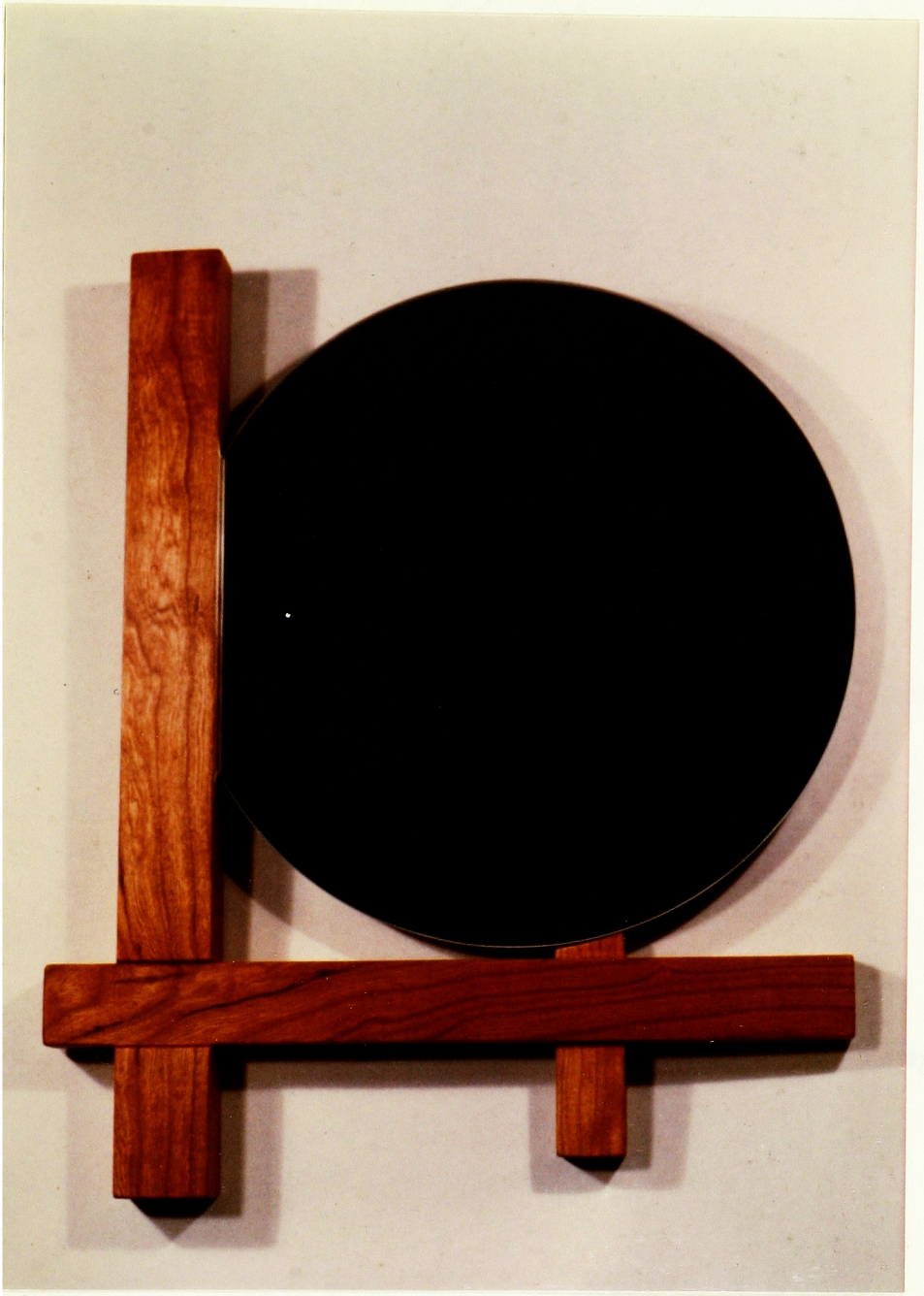


Plate 1. Wall Mirror



straight, hard and soft, line and plane, symmetry and asymmetry, horizontality and verticality, perpendicularity and obliquity, and hues of color. Each piece depicts some of the above contrasting elements in varying degrees of intensity. At times the contrasts are subtle, at other times, disparate to the degree of opposite polarities. The work therefore, may be viewed within two contexts simultaneously: that of the contrasting elements, and that of the strength of the contrast.

Taking this approach to design presented me with the problem of creating pieces that still worked aesthetically. The dissonances established through the use of contrasting elements fought, at times, with my notions of unity and wholeness. I found myself questioning my conservative approach to furniture design.

Returning to the theme of influences, I would like to discuss some of the people whose work reflects a concern with my thesis topic. Of prime importance is the Chinese philosopher Lao Tsu. In his book Tao Te Ching, he continually exposes the dualities of existence. The following quote is from chapter two of the translation by Gia-Fu Feng and Jane English:

Under heaven all can see beauty as beauty only because  
there is ugliness.  
All can know good as good only because there is evil.  
Therefore having and not having arise together.

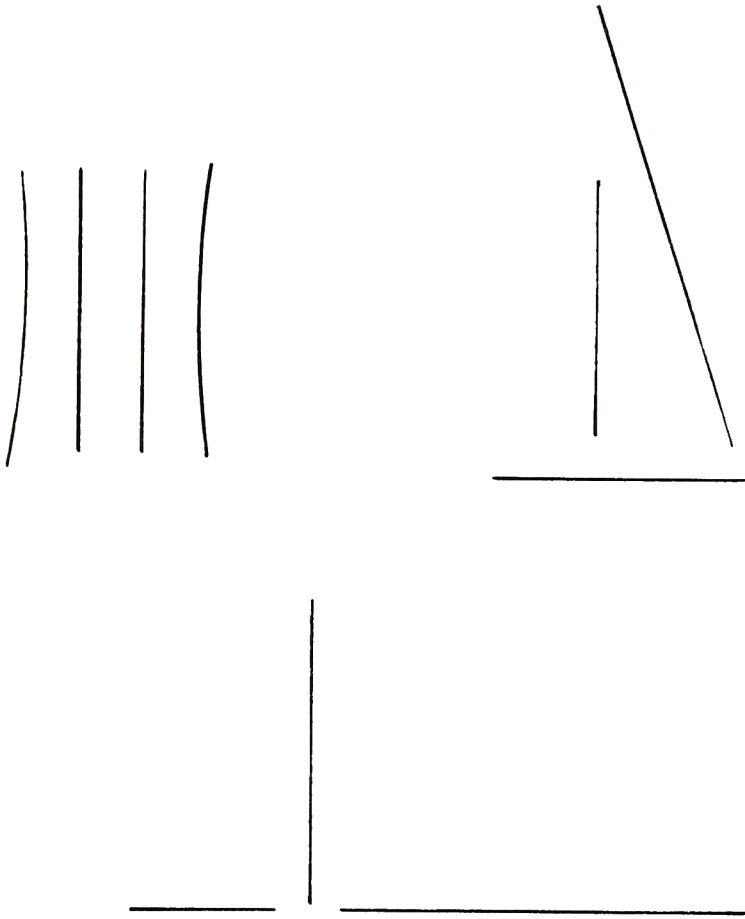


Difficult and easy complement each other.  
 Long and short contrast each other;  
 High and low rest upon each other;  
 Voice and sound harmonize each other;  
 Front and back follow one another.<sup>1</sup>

For Lao Tsu, opposites create meaning through their contrast and relationships. A quality is perceived in relation to what it is not.

In The Tao of Architecture, a book which relates Lao Tsu's philosophy to architecture, Amos Ih Tiao Chang, the author, agrees with Lao Tsu and says the following: "To be precise, the phenomenon of contrast in spatial form should be defined as sensory difference of two things between two obvious opposites<sup>2</sup> (my underlining). I feel this view is somewhat limiting as it does not account for a range of subtlety of perceived contrast. Mr. Chang does, however, go on to present an interesting theory, which he supports with examples.

He believes that architectonic forms are composed basically of varied combinations of three "polarities of shape, namely: horizontality and verticality; perpendicularity and obliquity; and, curvilinearity and rectilinearity."<sup>3</sup> In addition, the members within each polarity have the capacity to influence how the other is perceived.



When an arrangement of two parallel straight lines is in proximate position and enclosed by two curves, the straight lines will be deformed and appear to be bent. Similarly, when two lines are in immediate relationship with a third line, the one which is in oblique position with it will influence the one of perpendicular position to tilt and counterbalance each other... a long horizontal element also has the tendency to influence a vertical one to lean in such a direction as to balance the approaching action of the horizontal.<sup>4</sup>

The purpose of Chang's book is not to offer scientific proofs of the importance of incorporating elements of contrast in design. Rather, he presents the wisdom of an ancient philosophy as a solution to the barrenness pervading much modern architecture. Mr. Chang calls for the more frequent and careful use of space on the part of architects as a means of adding interest, and also more accurately representing the complete human experience. He associates the concern with solid form with physical existence and the use of voids with the purely spiritual existence. "We may say that emphasis on solid is disharmonious with the recognition of spiritual being."<sup>5</sup> In other words, many architects are designing within a narrow framework of consciousness.

Chapter eleven of the Tao Te Ching addresses just this point:

Thirty spokes share the wheel's hub;  
It is the center hole that makes it useful.  
Shape clay into a vessel;  
It is the space within that makes it useful.  
Cut doors and windows for a room;  
It is the holes which make it useful.  
Therefore profit comes from what is there;  
Usefulness from what is not there.<sup>6</sup>

It seems that inspiration for I. M. Pei's addition to the National Gallery could have emanated from here.

The concern with space has exciting possibilities in the realm of music as well. As the trumpet playing of Miles

Davis shows, space (silence) serves to emphasize what is played. By showing restraint, more is said with less. Miles is also famous for his facility with dynamics and his ability to juxtapose dissonance with liquid, mellow sounds. The raw power he projects at times is reminiscent of some of David Smith's sculptural work.

Smith often makes bold use of contrasting elements. These consist of straight or angular shapes versus curved, positive versus negative space, geometric versus non-geometric, planar versus linear, and hues of color. The technique of welding metal seems to be a natural for fusing together disparate shapes.

On color, Smith says the following: "I don't like pretty colors. I like kind of raw colors... My idea of color for me is real gutty."<sup>7</sup> Tank Totem X (plate 2) exhibits this, as well as other contrasting elements.

The circular blue shape and the rectangular shapes of the base contrast rather sharply with each other, but also represent geometric shapes in opposition to the remaining non-geometric shapes of the piece. These latter shapes contrast to one another by means of color, and varying degrees of curvilinearity. Rounded corners of two of the shapes play off the more jagged lines of the third. The excitement for





Plate 2. Tank Totem X  
Used by permission of Holt,  
Rinehart, and Winston.

me lies in the balance achieved by the juxtaposition of starkly dissimilar shapes of color, and in the use of several modalities of contrast. The resulting dissonance is strongly felt.

Tank Totem IX (plate 3) seems atypical of most of Smith's work, though it too fuses contrasting elements. First, there is the rather obvious contrast between linear and planar elements. Second, there is the play between curved and straight members, which occurs strongest at the top of the piece where the rectangle joins the curved bowl shape. Together these two shapes, and the placement of the rectangle directly under the middle of the bowl, create a sense of peaceful harmony. It is this, in lieu of a raw power, which seems unusual for Smith.

The play of positive and negative space is worthy of mention in this piece because the shapes and quantity of negative space add greatly to its presence. Starting at the top, the curved outline of the bowl shape contains a solid plane and space. Negative space seems to accentuate the point at which the bowl joins the rectangle. Finally, the space around the three linear shapes, and the seeming randomness of both the shapes and placement of the stones lying on the ground, unify the quiet harmony of the piece with a sense of disintegration. The fusion of contrast occurs on a very abstract as





Plate 3. Tank Totem IX  
Used by permission of Holt,  
Rinehart, and Winston.

well as tangible plane, in what appears at first glance to be a simple piece.

A final contrast to point out in Tank Totem IX is that of random and natural versus orderly. The three linear shapes and stone shapes are natural looking, while the rectangle and bowl shape have a contrived, man-made quality.

Barbara Hepworth's Construction (Crucifixion) (plate 4) epitomizes this sense of orderliness and, in so doing, represents a genre in sculpture I find highly stimulating. From a formal point of view the concern seems to be an organization of line, plane, and space. Analyzed from the perspective of my thesis, the elements of contrast are line versus plane, curved versus straight, positive versus negative, horizontality versus verticality, and the contrast of primary colors.

The formal organization and strong juxtapositions found in this piece influenced the initial concept for my lacquered wall piece. After seeing a photograph of Construction (Crucifixion), I knew that I wanted to make separate cabinets of different shapes, connected by linear elements. I knew also that I wanted a distinct presence of negative space, and felt quite strongly that the design would work.



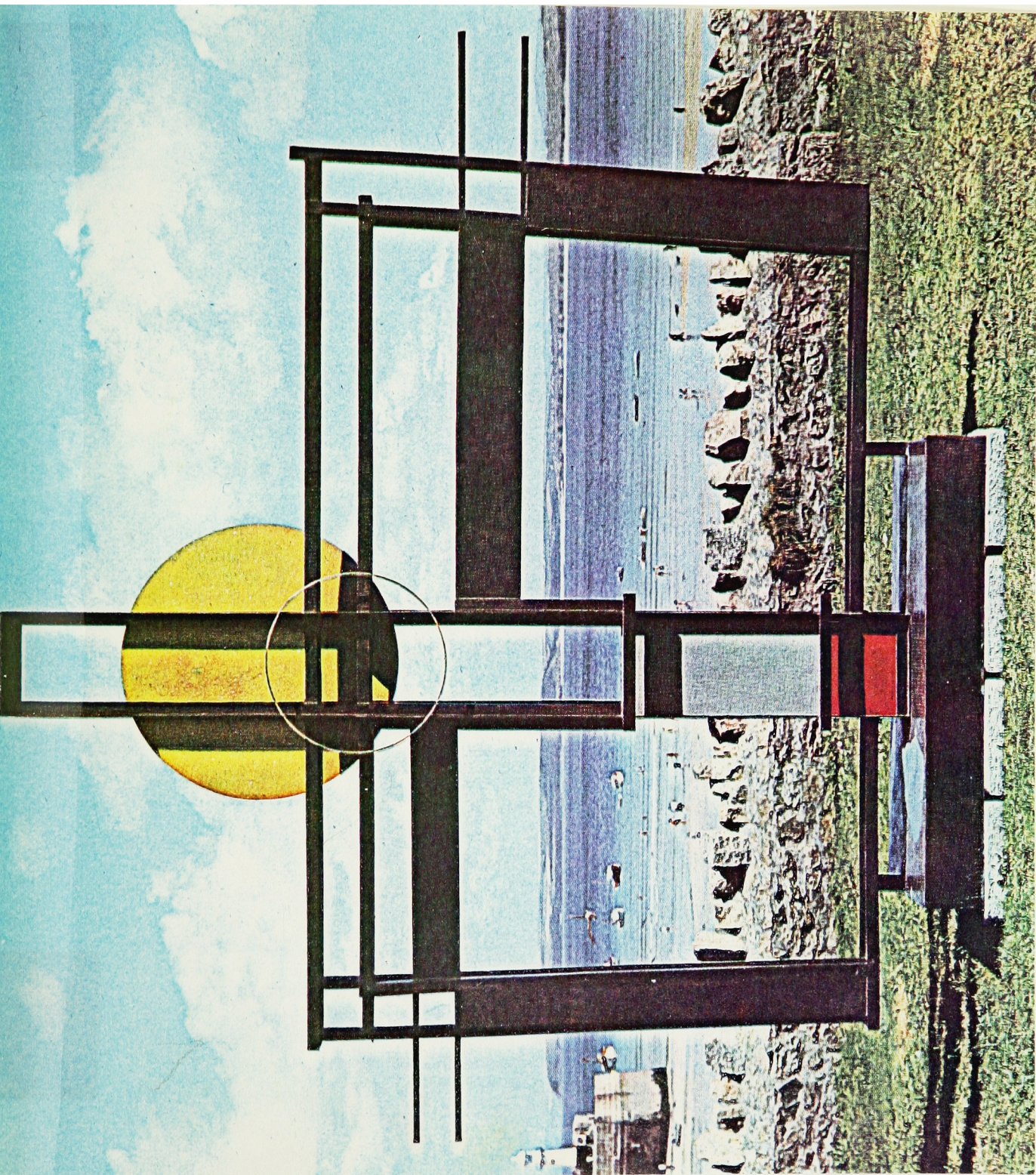


Plate 4. Construction (Crucifixion) Used by permission of Lund Humphries.



## CHAPTER II

### MY THESIS WORK

#### '59 Lincoln Wine (Wool) Cabinets

My initial approach toward designing the cabinets was to draw different shapes with various means of connection. The circle figured prominently in some of these ideas, either as a recessed area of a door, or an actual cabinet shape. After drawing five different ideas, I felt the need for a new approach. I started cutting out various shapes to represent cabinets, combining them on paper in different ways, with particular attention to the space between and around them. This freed up the design process, and prevented me from getting bogged down in details. Also, I produced some new ideas. At this point, feeling that I had some promising directions, I sought input from my advisors.

As a result of this exchange, I decided to develop the idea which had the most dynamic use of negative space. Making the choice was difficult; I felt excited by several of the ideas and could have generated still more. In the interest of time, however, I focussed on the direction which

seemed to relate most strongly to my intentions.

Another important decision which came out of this consultation was to use a colored lacquer finish. The effect, it was felt, would be one of complete surface homogeneity. This, in turn, would emphasize the different forms more than any wood or veneer, for there would be no grain or color variations. Though I considered using color core plastic laminate later on, I rejected this material when I realized that the seams would be visible at edges.

The next step was to make four scale models in wood. This stimulated more drawing, but I felt that I was narrowing things down. By this time I was determining actual sizes and functions of the cabinets according to various wine bottles, liquor bottles, and glasses. Though the unit was designed to house these items and function as a serving area, I subsequently decided to broaden the possibilities and chose to call the piece '59 Lincoln Wine (Wool) Cabinets. (The '59 Lincoln refers to the source of the color pink used.) In keeping with my theme of contrast, I displayed cones of wool alongside wine bottles, liquor bottles, and glasses (see plate 5).

At this point in the design process I thought of introducing black areas which would mimic shadows. I felt this would create more interest, as well as add another element

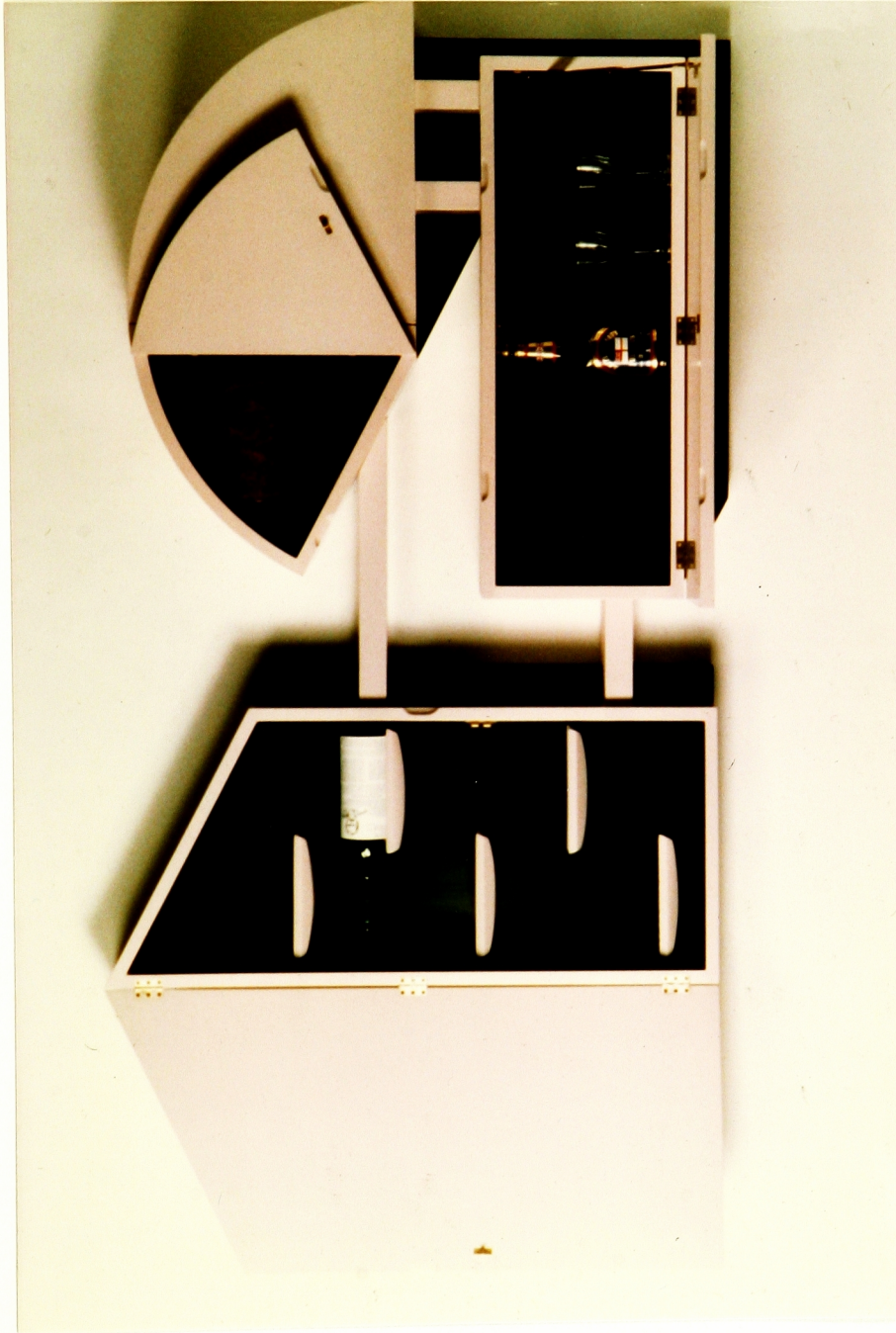


Plate 5. '59 Lincoln Wine (Wool) Cabinets

of contrast. From this came the decision to paint the interiors black as well. The pink and black seem to strongly complement and contrast with each other, which reinforces the notion of achieving aesthetic success through the use of contrasting elements.

In addition to the use of different colors, the wall piece employs positive and negative space, curved and straight line, line and plane, horizontality and verticality, and obliquity and perpendicularity. All of these contrasting elements are strong, but I feel that along with the color contrast, the use of positive and negative space, and obliquity versus perpendicularity are the most dynamic. The latter two pairs seem to work together, creating a strong diagonal eye movement from the top left corner of the wall piece downward and across. The connectors between the cabinets do not inhibit this movement, as they are the same color and of a shallower depth than the cabinets. A true fusing of contrasting elements is thus achieved to produce a dynamic effect (see plate 6).

An unexpected development which I feel is a component of the '59 Lincoln Wine (Wool) Cabinets, is a feeling of mystery which the piece gives off. This is centered in the right hand side of the piece. Perhaps it is due to a passing reference to classical architecture, where the vertical connectors between the horizontal cabinet and the round-shaped



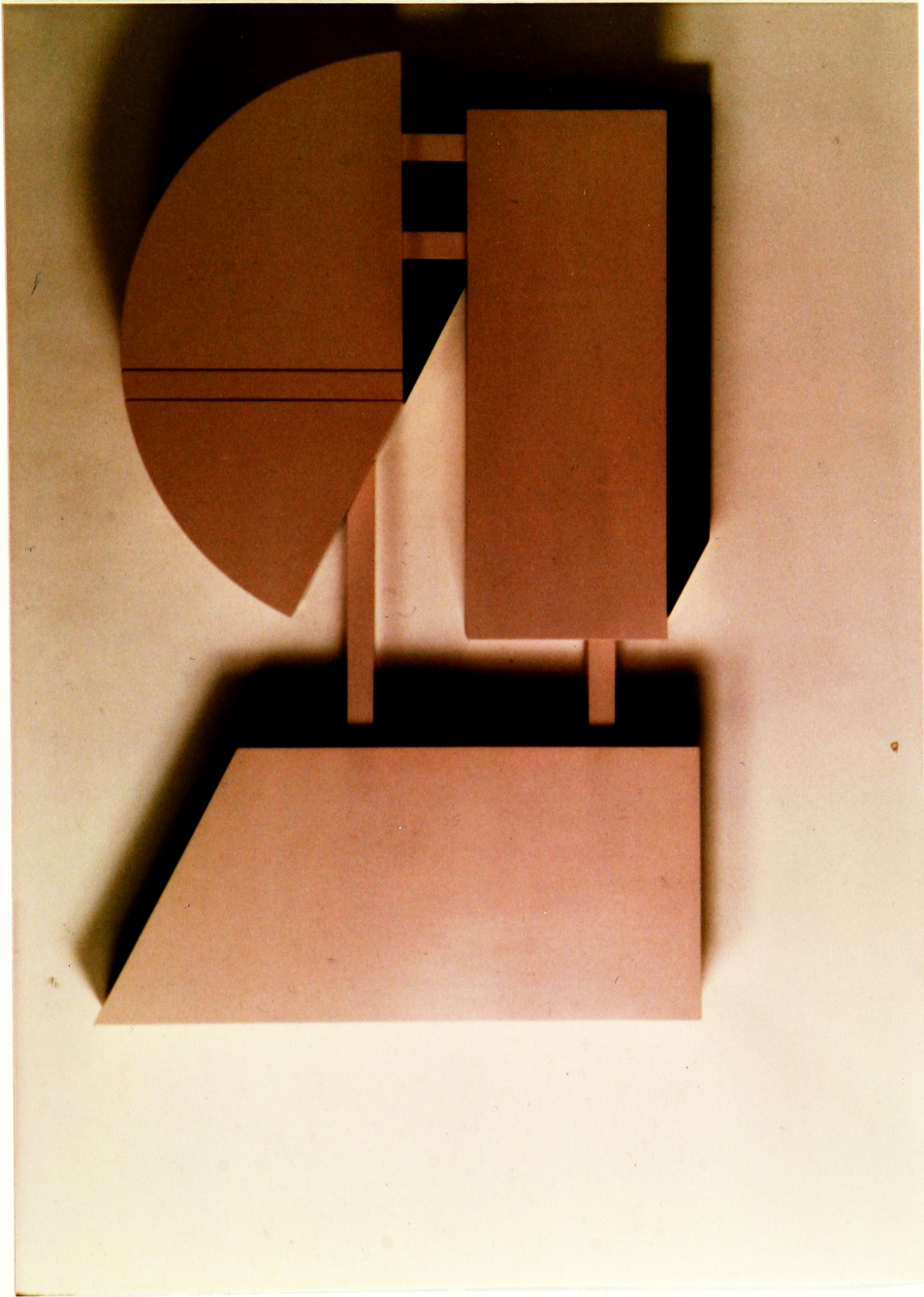


Plate 6. '59 Lincoln Wine (Wool) Cabinets

cabinet become columns supporting a cantilevered structure. Perhaps it is the fact that this glimpse of an ancient ruin is seen through the dream-like cameo rose shade of pink. Or perhaps the powerful and ancient symbol of wholeness (the circle), represented here in fragmentary form, contributes to this air of mystery. It is probably a combination of these circumstances. Though I would like to design on this level again, I feel it will happen only subconsciously. I cannot make it happen.

#### The Desk

Color is, perhaps, the most obvious element of contrast present in the desk (see plate 7). The maple has been bleached white with several applications of industrial strength hydrogen peroxide, and sprayed with clear lacquer, to obtain as light a tone as possible while still using a natural finish. The black areas are finished with several coats of black lacquer. They were originally conceived as an emphasis on the connection between the base and the top of the desk. The idea of a connection with the floor plane followed.

As a connection between the base and the top, the recessed black panel links another pair of contrasting elements, that of curved and straight lines. In plan view, the four



Plate 7. Desk



curved edges of the top play off the straight surfaces of the four sides of the desk, creating a dissonance. It is, however, an ironic dissonance which is established by the interplay of these two pairs of contrasting elements. While emphasizing the connection between two contrasting parts of the same piece, namely the base and top, the black panels also make the separation of the light portions of the base and the top, more apparent. Additionally, the shapes of the black panels employ a contrast between straight and curved lines.

The use of hard and soft edges is perhaps the most subtle of the contrasting elements in this piece, yet it is present. The sides have been given convex edges through the use of the spoke shave and files. This contrasts with the hard edges of the top and drawer fronts.

The last pair of contrasting elements present in the desk is symmetry versus asymmetry. More specifically, there exists a symmetry in the balanced use of the black recessed portions of the side and back panels. Each panel has the same black shape top and bottom, thereby creating symmetrical halves with either a vertical or horizontal axis. The top, however, is symmetrical only along the axis from front to back. While the front edge is concave, the back and side edges are convex. Therefore, if the top were sliced through the middle

from end to end, it would not produce two matching halves.

I feel that the exploration of new design and technical solutions in my thesis work was a positive experience. Nevertheless, where dissonance is favored over a sense of appropriateness, I feel the pieces are less successful. As a way of illustrating this point, I would like to mention two criticisms I have of the desk. First, I feel that the curve of the black portions of the sides is not subtle enough, and second, I feel that the curve of the back edge of the top contrasts too severely with the straight back panel. Both of these design flaws were the result of my concern with creating definite contrasts and a fear that the differences would be too subtle otherwise.

#### The File Cabinet

The file cabinet, which I designed to match the desk, was a rewarding exercise in designing a companion piece. I surprised myself in the number of different designs I generated, and feel totally satisfied with the final result. While the dynamic curve of the desk's drawer fronts and back panel is absent, the sense of peaceful unity projected by the file cabinet is not present in the desk (see plate 8). The contrasting elements employed in both pieces are the same, and



Plate 8. File Cabinet

therefore, I will not delve any further into a description of the file cabinet beyond saying that I feel it employs the most subtle use of contrasting elements in my thesis work.

### The Coffee Table

The coffee table (see plate 9) contrasts color, curved and straight lines, and positive and negative space. The relative strength of each pair of contrasting elements follows the above order, from strongest to most subtle.

The downward curve of the maple frame around the top reveals the straight, hard edge of the veneered surface. This pre-eminent detail emphasizes the contrast in color as well as that of curved and straight lines. Both sets of contrasting elements are also present in the end panels.

The contrast in color produced by the Australian lacewood veneer and solid maple was heightened by using several coats of bleach on the maple and a clear lacquer finish. The grain characteristics of the two woods are also quite different, the lacewood's having a uniform quilted effect, and the maple's having a definite curvilinearity.

The floating quality of the top is due to its slight elevation above the end panels and the negative space between the former and the latter. By choosing to connect the top to



Plate 9. Coffee Table



the end panels with partially hidden stretchers, the use of negative space was strengthened, as it was permitted to flow freely through the piece and connect with the void below the top.

### The Waste Basket

The waste basket (see plate 10) fuses two different elements of contrast: color, and curved versus straight lines. The lacewood panels are both curved and straight in plan view, but more striking in contrast are the padauk columns which are placed at each corner. These turned elements are repeated by the buttons mounted at each end, which re-emphasize the contrast in color. This latter function is also accomplished by a recessed band of padauk, which follows around the piece. The elements of contrast work together in this piece and move into a new area for me: post modernism. The buttons are the first decorative element, distinctly separate from the form, which I have incorporated in my work merely for the sake of decoration.

The form and colors of the waste basket create a strong presence, which is contradictory to the size of the piece. A bird's eye view of the thesis work from the second floor of the gallery reveals that the waste basket holds its own among

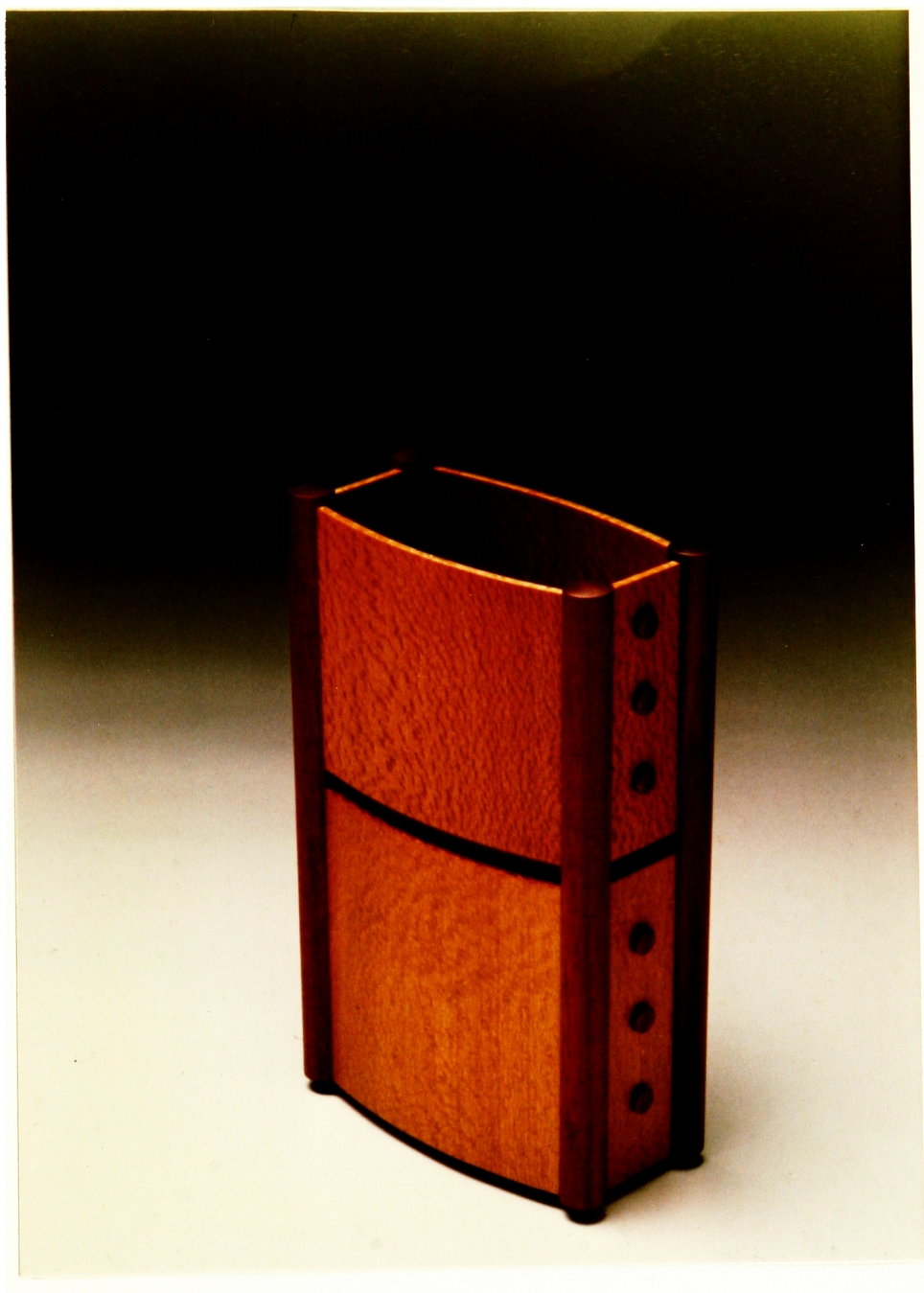


Plate 10. Waste Basket

much larger pieces. When the function is considered, the monumentality of the piece becomes ironic, and here again is a first for my design endeavors.



### CHAPTER III

#### CONCLUSION

"The Fusion of Contrasting Elements" has proven to be both a fruitful and meaningful frame of reference within which to design. Though not apparent at the start, I now realize that deep connections exist between this topic and past influences. Some of the latter, both artistic and philosophical, I have described in this paper. Concerning my future work, I believe this framework will be useful. I am particularly interested in exploring the contrasts between organic and non-organic, and contrasts of texture. Though I find the range of contrast in my thesis exciting, I would like to continue designing with the degree of contrast used in '59 Lincoln Wine (Wool) Cabinets. In this piece, the use of positive and negative approaches the strength of contrasting opposites.

As stated earlier, I am still quite interested in pursuing some of the other ideas for wall units. The approach taken there, that of rearranging shapes, seems applicable to other types of furniture as well. Additionally, the process I used to design the wall piece has emphasized the importance of taking a flexible, creative approach to designing. Cutting

out shapes may work well again, but other approaches may be of greater service in the future.

I have realized a sense of growth and accomplishment through my thesis work this past year. I feel that I have achieved an aesthetic breakthrough and new freedom through the use of contrast. The breakthrough came with the coffee table, the first of my thesis work, and developed further with each piece.

Though I have long suspected that greater self awareness might be achieved through sustained creative endeavor, it is only now that I feel some concrete evidence through making furniture. Some of my pieces convey a strong, unique feeling to me; something not planned. Yet as a group they seem unified. Other pairs of contrasting elements, not used in this work, suggest years of further exploration. I find the possibility of further growth and the emanation of different messages exciting.

## FOOTNOTES

<sup>1</sup>Lao Tsu, Tao Te Ching, trans. Gia-Fu Feng and Jane English (New York: Vintage Books, 1972), p. 3.

<sup>2</sup>Amos Ih Tiao Chang, The Tao of Architecture (Princeton: Princeton University Press, 1956), p. 31.

<sup>3</sup>Ibid., p. 32.

<sup>4</sup>Ibid., p. 33.

<sup>5</sup>Ibid., p. 29.

<sup>6</sup>Lao, Tao Te Ching, p. 22.

<sup>7</sup>David Smith, David Smith (New York: Holt, Rinehart, and Winston, 1968), p. 124.

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